



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,136	07/07/2000	Tohru Nagano	JA999-118X	8446.

33360 7590 07/19/2004

MARK D. MCSWAIN  
IBM ALMADEN RESEARCH CENTER, IP LAW DEPT.  
650 HARRY ROAD  
CHTA/J2B  
SAN JOSE, CA 95120

EXAMINER

EDOUARD, PATRICK NESTOR

ART UNIT	PAPER NUMBER
----------	--------------

2654

12

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/612,136

Applicant(s)

NAGANO ET AL

Examiner

Patrick N. Edouard

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 7-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to communication filed 5/3/04 (paper #11). Claims 7-28 are pending.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 7- 11, 14-20, 21-23, 26-28 are rejected under 35 U.S.C. 102(a) as being anticipated by

As per claim 7, Vaithyanathan et al teach a method of mining a collection of data to identify related concepts which occur at a frequency greater than a configurable threshold, comprising:

receiving a collection of data; (figures 5 and 6a, his collection of document);

converting the received data into a common format; (col. 10, lines 43-59, the collection of data (text) is converted into a common format);

combining the converted received data into clauses of related data; ( figure 6a, the converted document is combined into clauses or sentences 1-19; col. 10, lines 60-67);

attempting to associate a category with each word within each of the clauses; ( each word in the sentences 1-19 is assigned a category and a matrix is formed , col. 11, lines 1-5);

identifying mutually dependent relationships between the categorized words, according to at least one rule defining mutually dependent relationships between categorized words; (this

matrix is then clustered into three clusters using a k-means clustering algorithm based on the relationship between the word in the sentence);

grouping the identified mutually dependent relationships into groups of related mutually dependent relationships; (figure 6f, col. 11, lines 52-57); and

identifying unique concepts associated with the identified groups, wherein the identifying of unique concepts comprises recognizing the identified groups in which the related mutually dependent relationships exceed a configurable threshold. Fig. 6g, col. 11, lines 63 to col. 12, line 7).

As per claim 8, Vaithyanathan et al wherein the categorized words identified as being in a mutually dependent relationship exist within separate clauses (fig. 6f, col. 11, lines 52-56)

As per claim 9, Vaithyanathan et al wherein the separate clause exist within separate sentences.( figure 6q, col. 11, lines 52-57)

As per claim 10, Vaithyanathan et al wherein the converting comprises conversion of the received collection of data into the same format, wherein the received collection of data is made up of various data formats (figure 5, his document collection).

As per claim 11, Vaithyanathan et al wherein the words comprise a coherent character string within the clauses (figure 6a).

As per claims 14-20, Vaithyanathan et al wherein the mutually dependent relationships are determined according to rules applied to keywords and their associated categories within a clause (figures 6f and 6g, col. 11, lines 49 to col. 12, lines 7, figure 2).

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-14 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaithyanathan et al (5,857,179) in view of Register et al (5,371,807).

As per claim 12, Vaithyanathan et al teach the claimed invention but does not explicitly teach wherein the associating of a category with each key word comprises searching a category dictionary to identify a category which matches the key word. However, this feature is well known in the art as evidenced by Register et al who teach in figure 3, the recognized keywords extracted passed to the similarity measuring module for calculating a numeric similarity score for each predefined category using a knowledge base of keyword /category profile. Therefore, one having ordinary skill in the art at the time the invention was made would have found it obvious to incorporate into the clustering apparatus as taught by Vaithyanathan et al the knowledge based of keyword category/ profile as taught by register because it would provide a system capable of accurate keyword categorization.

As per claim 13, Register et al teach wherein the category dictionary is comprised of combinations of original expressions, parts of speech, concepts and categories, wherein the original expressions are equivalent to the key words, the parts of speech are a classification of

Art Unit: 2654

the key words, the concepts are replacement expressions for the key words and the categories represent a larger group having the nature of the key word (col. 5, lines 38-60).

6. Claims 21-28 are the same in scope and content as claims 7-20 above and therefore are rejected under

the same rationale.

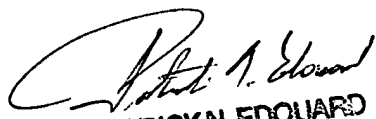
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick N. Edouard whose telephone number is 7033086725. The examiner can normally be reached on T-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 703 3059645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick N. Edouard

July 8, 2004

  
**PATRICK N. EDOUARD**  
**PATENT EXAMINER**